B2B Sales Pipeline Analysis – Project Overview

This project analyzes B2B sales pipeline data for a computer hardware company using Power BI. The objective is to evaluate sales performance, identify bottlenecks, analyze trends, and provide actionable insights to improve revenue outcomes.

Business Objectives

- Evaluate sales team and agent performance
- Identify lagging sales agents
- Analyze quarter-over-quarter trends
- Assess product win rates and pipeline efficiency

Datasets Used

Accounts, Products, Sales Teams, and Sales Pipeline datasets were used. Each dataset represents a core business entity necessary for pipeline analysis.

Key KPIs

- Total Won Revenue
- Win Rate
- Open Pipeline Value
- Quarter-over-Quarter Growth

Scope & Assumptions

The analysis assumes accurate opportunity values and consistent sales stages. Forecasting and external market factors are outside the scope of this project.

B2B Sales Pipeline Analysis – Data Understanding & Cleaning

1. Data Sources Overview

Four datasets were provided for this project: Accounts, Products, Sales Teams, and Sales Pipeline. The Sales Pipeline table serves as the fact table, while the remaining tables act as dimensions to describe customers, products, and sales organization structure.

2. Data Quality Issues Identified

- Duplicate records in dimension tables
- Missing values in categorical fields such as industry, region, and sales agent
- Inconsistent naming conventions for sales stages and regions
- Invalid opportunity values (null or zero)
- Date inconsistencies between created and closed dates

3. Data Cleaning Procedure

Accounts Table:
- Removed duplicate records based on Account ID
- Replaced missing Industry and Region values with standardized placeholders
- Validated data types for all columns

Products Table:
- Removed duplicate Product IDs
- Cleaned and converted product pricing to numeric format
- Standardized product category naming

Sales Teams Table:
- Removed duplicate Sales Team IDs
- Standardized region naming conventions
- Filled missing manager names with default values

Sales Pipeline Table:
- Removed rows with invalid opportunity values
- Standardized sales stage names (Prospecting, Proposal, Closed Won, Closed Lost)
- Converted date fields to proper date format
- Removed records with illogical date sequences
- Trimmed and cleaned sales agent text fields

4. Date Table Creation

A dedicated date table was created using DAX to support time intelligence analysis. The table includes year, quarter, month, and year-quarter attributes and was marked as the official date table within Power BI.

5. Data Validation

- Verified row counts after cleaning
- Ensured no null values in key identifier columns
- Confirmed correct data types for measures and keys
- Performed spot checks to ensure logical consistency

B2B Sales Pipeline Analysis – Data Modeling

1. Modeling Approach

The data model was designed using a star schema to ensure optimal performance, simplified DAX calculations, and intuitive analysis. The Sales table serves as the central fact table, connected to dimension tables for descriptive context.

2. Fact Table

Sales Pipeline table was designated as the fact table containing transactional opportunity-level data such as opportunity value, sales stage, created date, and close date.

3. Dimension Tables

- Accounts: Provides customer-level attributes such as industry and region
- Products: Contains product details including category and pricing
- Sales Teams: Describes organizational structure and regional alignment
- Date: Supports time intelligence and trend analysis

4. Relationships

- One-to-many relationships established from dimensions to fact table
- Single-direction filtering applied to prevent ambiguity
- Active relationship created between Close Date and Date table
- Inactive relationship created between Created Date and Date table for pipeline analysis

5. Best Practices Applied

- Use of surrogate keys and consistent data types
- Hidden technical columns to improve report usability
- Clear naming conventions for business users
- Separation of measures into a dedicated measures table

B2B Sales Pipeline Analysis – DAX Measures & Calculations

1. Base Measures

```
Total Opportunities =
COUNT(Sales[Opportunity ID])

Total Pipeline Value =
SUM(Sales[Opportunity Value])
```

2. Revenue & Performance Measures

```
Won Opportunities =
CALCULATE(
    [Total Opportunities],
    Sales[Stage] = "Closed Won"
)

Lost Opportunities =
CALCULATE(
    [Total Opportunities],
    Sales[Stage] = "Closed Lost"
)

Won Revenue =
CALCULATE(
    [Total Pipeline Value],
    Sales[Stage] = "Closed Won"
)

Lost Revenue =
CALCULATE(
    [Total Pipeline Value],
    Sales[Stage] = "Closed Lost"
)

Open Pipeline Value =
CALCULATE(
    [Total Pipeline Value],
    Sales[Stage] IN { "Prospecting", "Proposal" }
)
```

3. Conversion Metrics

```
Win Rate =
DIVIDE(
    [Won Opportunities],
    [Total Opportunities]
)

Average Deal Size =
DIVIDE(
    [Won Revenue],
    [Won Opportunities]
```

```
)

Close Ratio =
DIVIDE(
    [Won Opportunities],
    [Won Opportunities] + [Lost Opportunities]
)
```

4. Time Intelligence Measures

```
Won Revenue QoQ =
CALCULATE(
    [Won Revenue],
    DATEADD('Date'[Date], -1, QUARTER)
)

QoQ Revenue Growth % =
VAR PrevQ = [Won Revenue QoQ]
RETURN
DIVIDE(
    [Won Revenue] - PrevQ,
    PrevQ
)

Pipeline Created Value =
CALCULATE(
    [Total Pipeline Value],
    USERELATIONSHIP(
        Sales[Created Date],
        'Date'[Date]
    )
)
```

5. Product Analysis Measures

```
Product Win Rate =
DIVIDE(
    [Won Opportunities],
    [Total Opportunities]
)

Revenue Share % =
DIVIDE(
    [Won Revenue],
    CALCULATE(
        [Won Revenue],
        ALL(Products)
    )
)
```

B2B Sales Pipeline Analysis – Dashboard Design & Visuals

1. Dashboard Design Principles

The dashboard was designed with a business-first approach, prioritizing clarity, consistency, and ease of navigation. Each page answers a specific business question and supports interactive exploration through slicers and drill-downs.

2. Page Structure

- Executive Overview: High-level KPIs and revenue trends
- Sales Team Performance: Team and agent-level comparison
- Product & Pipeline Analysis: Product win rates and funnel analysis
- Trends: Time-based analysis and growth tracking

3. Executive Overview Page

Includes KPI cards for total won revenue, win rate, open pipeline value, and quarter-over-quarter growth. A line chart displays revenue trends by quarter, while a bar chart highlights top-performing sales teams.

4. Sales Team Performance Page

A matrix visual compares sales teams across opportunities, revenue, win rate, and deal size. A scatter plot identifies high and low-performing sales agents based on conversion efficiency and volume.

5. Product & Pipeline Page

Bar charts show win rate by product, donut charts illustrate revenue share by category, and a funnel visual displays opportunity drop-off across sales stages.

6. Trends Page

Line and area charts compare pipeline creation against closed revenue over time. A matrix with conditional formatting highlights quarter-over-quarter growth patterns.

7. Interactivity & Usability

Global slicers for region, product category, sales team, and year enable dynamic filtering. Tooltips and drill-through functionality provide deeper insights without cluttering the dashboard.

B2B Sales Pipeline Analysis – Insights & Business Recommendations

1. Sales Team Performance Insights

Analysis shows clear performance variation across sales teams. Top-performing teams consistently demonstrate higher win rates and larger average deal sizes, while underperforming teams exhibit lower conversion despite similar opportunity volumes.

2. Sales Agent Productivity

Scatter plot analysis identifies a subset of sales agents with high opportunity volume but below-average win rates, indicating coaching and training opportunities. Conversely, several agents achieve high win rates with fewer opportunities, suggesting best practices that can be replicated.

3. Product Performance Insights

Certain products demonstrate significantly higher win rates, particularly within specific categories. Products with high win rates but low revenue contribution represent potential upsell opportunities, while low win-rate, high-value products may require pricing or positioning adjustments.

4. Pipeline & Trend Insights

Quarter-over-quarter analysis reveals seasonal patterns in pipeline creation and revenue closure. Periods of rapid pipeline growth do not always translate immediately into revenue, highlighting the importance of monitoring pipeline health in addition to closed sales.

5. Business Recommendations

- Focus coaching efforts on low win-rate, high-volume sales agents
- Replicate strategies from top-performing teams across regions
- Prioritize high win-rate products for cross-sell and upsell initiatives
- Monitor pipeline creation trends to anticipate future revenue performance

B2B Sales Pipeline Analysis – Conclusion & Portfolio Summary

1. Project Summary

This project delivered an end-to-end Power BI solution for analyzing B2B sales pipeline data for a computer hardware company. The solution spans data preparation, modeling, advanced DAX, interactive dashboards, and actionable business insights.

2. Business Value Delivered

- Improved visibility into sales team and agent performance
- Identification of revenue growth opportunities and pipeline risks
- Data-driven recommendations for coaching, product focus, and forecasting
- Centralized, self-service reporting for stakeholders

3. Skills Demonstrated

- Data cleaning and transformation using Power Query
- Star schema data modeling and relationship design
- Advanced DAX measures and time intelligence
- Dashboard design and data storytelling
- Translating analytics into business recommendations

4. Portfolio & Interview Summary

This project can be presented as a real-world business intelligence case study, demonstrating the ability to manage the full analytics lifecycle. It highlights both technical proficiency and business acumen, making it suitable for data analyst and BI roles.

5. Future Enhancements

- Incorporate sales targets and variance analysis
- Add forecasting and what-if scenarios
- Integrate CRM or external market data for deeper insights